and anthocyan, the vegetation of the "polygonal" soils, and to make miscellaneous floristic notes at various stations. The transpiration he finds very feeble and almost without diurnal periodicity or plant control. This feeble transpiration he accuses of being a *cause* of feeble growth; instead, is not its feebleness due to the same cause as the feebleness of growth, the low supply of energy? Mycorhizas, internal and external, are common. Anthocyan is found in fifty species, about half the known higher plants. It is always lacking in plants growing on soil enriched by the droppings of wild birds, whereas the same species growing on poor soils show it abundantly. As to the rôle of anthocyan, he holds it for an absorber of energy, and without it no plant can become dominant in arctic regions. For other interesting observations one must consult the work itself.—C. R. B.

Polypodiaceæ and edible fungi.—Not that there is any connection between them; but both are treated by COPELAND in a bulletin[4] from the Government Laboratories at Manila. The section on Polypodiaceæ forms the bulk of the bulletin and is "an attempt to collect and publish descriptions of all the ferns known to have been found in these islands." The author adds: "I am not personally acquainted with a large part of those ferns still known here only from earlier collections." Which leads us to remark that he should then have abstained from describing a new genus and new species among them, as he did in DR. PERKINS's last *Fragmenta*. In reprinting here these descriptions he has neglected to indicate that they have already been published elsewhere. He has sinned again in adding one more new name in this bulletin. The compilation of such descriptive floras is undoubtedly serviceable; but one who is not a taxonomist and who confesses the absence of indispensable books and specimens, should not take the chances of cumbering pteridology with new names which may or may not be justified. And the same may be said regarding the brief fungus part.—C. R. B.

Genera of Mexican plants.—The flora of Mexico is so closely related to our own that any work on it is of essential assistance to American taxonomists. So we welcome the assembling and description of the Mexican genera, and the listing of the species, undertaken by Professor CONZATTI, director of the State Normal School of Oaxaca, of which the first volume, on Polypetalae, has recently been published by the Ministry of Public Works. This volume[5] begins with an artificial key covering about 50 pages including all genera, and contains descriptions of 667 genera of Polypetalæ, representing 71 families, and including close to 4,500 species. This is to be followed by another on Gamopetalae and a third

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4COPELAND, E. B., I. The Polypodiaceæ of the Philippine Islands. II. New species of edible Philippine fungi. Bureau of Government Labs. Bull. 28. 8vo. pp. 146. *pls.* 3. 1905.

5CONZATTI, C., Los géneros vegetales mexicanos. Imp. 8vo. pp. 449. Mexico: Oficina Tip. de la Secretaría de Fomento. 1905. $3 (Mexican).

on Monochlamydeae, Monocotyledoneae, Gymnospermeae, and Pteridophyta, embracing in all about 1900 genera.

The descriptions are very full, and though the diagnostic characters are not indicated, this is largely atoned for by the complete system of synoptic characters under the tribes and subtribes.—C. R. B.

Germs of mind in plants.—A little book,[6] unknown to us in the original French, now translated into English by A. M. SIMONS, well-known for his work in Chicago along social and philanthropic lines, shows that there exists in France the same sort of popularizers of science as in our country—writers who with a smattering of scientific knowledge lack the fuller knowledge that forms a background and furnishes scientific perspective. The facts of plant ecology are herein so distorted in their relation as to become caricatures; the use of words is so fanciful as to convert sober ideas into grotesque fairy-tales. For this, doubtless, the author is chiefly responsible; but the translator slips occasionally through unfamiliarity with a technical use of some common word.

The book is interesting; but it is as little "science" as a historical novel is history. It is difficult to see how such fiction can be "a contribution to the cause of socialism and science."—C. R. B.

Hepaticae of France.—LACOUTURE has prepared a helpful series of descriptive analytical keys to facilitate the identification of French liverworts by amateurs.[7] The keys are arranged in a convenient bracket fashion, which is easy to use but makes the form of the thin volume rather unhandy and precludes its use as a field manual. The description of each species is accompanied by an excellent figure illustrating the most essential features described. The keys, in the form of tables, are arranged in three series, of which the first, consisting of tables I and II gives the characters of the tribes; the second, tables III–IX the characters of the genera; and the third, tables XII–XXXIX, the characters of the species and the illustrations. No attempt is made to exhibit the natural classification.—C. J. CHAMBERLAIN.

Index Filicum.—The fourth and fifth fascicles of CHRISTENSEN's important work[8] were issued respectively in October and December last. They carry the references from *Cyathea lanuginosa* to *Gleichenia cryptocarpa*. The huge genus Dryopteris alone takes fifty-two pages, which indicates something of the comprehensiveness of the work. Let colleges and libraries hasten to support by their

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[6] FRANCÉ, R. H., Germs of mind in plants. Trans. by A. M. SIMONS. 12mo. pp. 151. Chicago: C. H. Kerr & Co., 1905. 50 cts.

[7] LACOUTURE, CH., Hépatiques de la France. Tableaux synoptiques de. caractères saillants des tribus, des genres, et des espèces. 4to. pp. 78. *figs. 200.* Paris: Paul Klincksieck. 1905. *fr.* 10.

[8] CHRISTENSEN, C., Index Filicum, etc. Fasc. 4, 5. Copenhagen: H. Hagerups Boghandel. 1905. Each 3*sh.* 6*d.*